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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/827,110

DATE: 09/06/2001

TIME: 16:29:47

Input Set : A:\ES.txt

Output Set: N:\CRF3\09062001\I827110.raw

3 <110> APPLICANT: Wang, Elizabeth
 5 <120> TITLE OF INVENTION: REGULATION OF EPITHELIAL TISSUE BY HEDGEHOG-LIKE
 6 POLYPEPTIDES, AND FORMULATIONS AND USES RELATED THERETO
 8 <130> FILE REFERENCE: ONV-031.02
 C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/827,110
 C--> 11 <141> CURRENT FILING DATE: 2000-04-05
 13 <150> PRIOR APPLICATION NUMBER: 08/955,552
 14 <151> PRIOR FILING DATE: 1997-10-20
 16 <160> NUMBER OF SEQ ID NOS: 28
 18 <170> SOFTWARE: PatentIn Ver. 2.0
 20 <210> SEQ ID NO: 1
 21 <211> LENGTH: 1277
 22 <212> TYPE: DNA
 23 <213> ORGANISM: chicken Shh
 25 <220> FEATURE:
 26 <221> NAME/KEY: CDS
 27 <222> LOCATION: (1)..(1275)
 29 <400> SEQUENCE: 1

30	atg gtc gaa atg ctg ctg ttg aca aga att ctc ttg gtg ggc ttc atc	48
31	Met Val Glu Met Leu Leu Leu Thr Arg Ile Leu Leu Val Gly Phe Ile	
32	1 5 10 15	
34	tgc gct ctt tta gtc tcc tct ggg ctg act tgt gga cca ggc agg ggc	96
35	Cys Ala Leu Leu Val Ser Ser Gly Leu Thr Cys Gly Pro Gly Arg Gly	
36	20 25 30	
38	att gga aaa agg agg cac ccc aaa aag ctg acc ccg tta gcc tat aag	144
39	Ile Gly Lys Arg Arg His Pro Lys Lys Leu Thr Pro Leu Ala Tyr Lys	
40	35 40 45	
42	cag ttt att ccc aat gtg gca gag aag acc cta ggg gcc agt gga aga	192
43	Gln Phe Ile Pro Asn Val Ala Glu Lys Thr Leu Gly Ala Ser Gly Arg	
44	50 55 60	
46	tat gaa ggg aag atc aca aga aac tcc gag aga ttt aaa gaa cta acc	240
47	Tyr Glu Gly Lys Ile Thr Arg Asn Ser Glu Arg Phe Lys Glu Leu Thr	
48	65 70 75 80	
50	cca aat tac aac cct gac att att ttt aag gat gaa gag aac acg gga	288
51	Pro Asn Tyr Asn Pro Asp Ile Ile Phe Lys Asp Glu Glu Asn Thr Gly	
52	85 90 95	
54	gct gac aga ctg atg act cag cgc tgc aag gac aag ctg aat gcc ctg	336
55	Ala Asp Arg Leu Met Thr Gln Arg Cys Lys Asp Lys Leu Asn Ala Leu	
56	100 105 110	
58	gcg atc tcg gtg atg aac cag tgg ccc ggg gtg aag ctg cgg gtg acc	384
59	Ala Ile Ser Val Met Asn Gln Trp Pro Gly Val Lys Leu Arg Val Thr	
60	115 120 125	
62	gag ggc tgg gac gag gat ggc cat cac tcc gag gaa tcg ctg cac tac	432
63	Glu Gly Trp Asp Glu Asp Gly His His Ser Glu Glu Ser Leu His Tyr	
64	130 135 140	
66	gag ggt cgc gcc gtg gac atc acc acg tcg gat cgg gac cgc agc aag	480
67	Glu Gly Arg Ala Val Asp Ile Thr Thr Ser Asp Arg Asp Arg Ser Lys	

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68 145      150      155      160
70 tac gga atg ctg gcc cgc ctc gcc gtc gag gcc ggc ttc gac tgg gtc 528
71 Tyr Gly Met Leu Ala Arg Leu Ala Val Glu Ala Gly Phe Asp Trp Val
72      165      170      175
74 tac tac gag tcc aag gcg cac atc cac tgc tcc gtc aaa gca gaa aac 576
75 Tyr Tyr Glu Ser Lys Ala His Ile His Cys Ser Val Lys Ala Glu Asn
76      180      185      190
78 tca gtg gca gcg aaa tca gga ggc tgc ttc cct ggc tca gcc aca gtg 624
79 Ser Val Ala Ala Lys Ser Gly Gly Cys Phe Pro Gly Ser Ala Thr Val
80      195      200      205
82 cac ctg gag cat gga ggc acc aag ctg gtg aag gac ctg agc cct ggg 672
83 His Leu Glu His Gly Gly Thr Lys Leu Val Lys Asp Leu Ser Pro Gly
84      210      215      220
86 gac cgc gtg ctg gct gct gac gcg gac ggc cgg ctg ctc tac agt gac 720
87 Asp Arg Val Leu Ala Ala Asp Ala Asp Gly Arg Leu Leu Tyr Ser Asp
88 225      230      235      240
90 ttc ctc acc ttc ctc gac cgg atg gac agc tcc cga aag ctc ttc tac 768
91 Phe Leu Thr Phe Leu Asp Arg Met Asp Ser Ser Arg Lys Leu Phe Tyr
92      245      250      255
94 gtc atc gag acg cgg cag ccc cgg gcc cgg ctg cta ctg acg gcg gcc 816
95 Val Ile Glu Thr Arg Gln Pro Arg Ala Arg Leu Leu Leu Thr Ala Ala
96      260      265      270
98 cac ctg ctc ttt gtg gcc ccc cag cac aac cag tcg gag gcc aca ggg 864
99 His Leu Leu Phe Val Ala Pro Gln His Asn Gln Ser Glu Ala Thr Gly
100      275      280      285
102 tcc acc agt ggc cag gcg ctc ttc gcc agc aac gtg aag cct ggc caa 912
103 Ser Thr Ser Gly Gln Ala Leu Phe Ala Ser Asn Val Lys Pro Gly Gln
104      290      295      300
106 cgt gtc tat gtg ctg ggc gag ggc ggg cag cag ctg ctg ccg gcg tct 960
107 Arg Val Tyr Val Leu Gly Glu Gly Gly Gln Gln Leu Leu Pro Ala Ser
108 305      310      315      320
110 gtc cac agc gtc tca ttg cgg gag gag gcg tcc gga gcc tac gcc cca 1008
111 Val His Ser Val Ser Leu Arg Glu Glu Ala Ser Gly Ala Tyr Ala Pro
112      325      330      335
114 ctc acc gcc cag ggc acc atc ctc atc aac cgg gtg ttg gcc tcc tgc 1056
115 Leu Thr Ala Gln Gly Thr Ile Leu Ile Asn Arg Val Leu Ala Ser Cys
116      340      345      350
118 tac gcc gtc atc gag gag cac agt tgg gcc cat tgg gcc ttc gca cca 1104
119 Tyr Ala Val Ile Glu Glu His Ser Trp Ala His Trp Ala Phe Ala Pro
120      355      360      365
122 ttc cgc ttg gct cag ggg ctg ctg gcc gcc ctc tgc cca gat ggg gcc 1152
123 Phe Arg Leu Ala Gln Gly Leu Leu Ala Ala Leu Cys Pro Asp Gly Ala
124      370      375      380
126 atc cct act gcc gcc acc acc acc act gcc atc cat tgg tac tca cgg 1200
127 Ile Pro Thr Ala Ala Thr Thr Thr Thr Gly Ile His Trp Tyr Ser Arg
128 385      390      395      400
130 ctc ctc tac cgc atc ggc agc tgg gtg ctg gat ggt gac gcg ctg cat 1248
131 Leu Leu Tyr Arg Ile Gly Ser Trp Val Leu Asp Gly Asp Ala Leu His
132      405      410      415

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134 ccg ctg ggc atg gtg gca ccg gcc agc tg 1277
135 Pro Leu Gly Met Val Ala Pro Ala Ser
136 420 425
138 <210> SEQ ID NO: 2
139 <211> LENGTH: 1190
140 <212> TYPE: DNA
141 <213> ORGANISM: murine Dhh
143 <220> FEATURE:
144 <221> NAME/KEY: CDS
145 <222> LOCATION: (1)..(1188)
147 <400> SEQUENCE: 2
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149 Met Ala Leu Pro Ala Ser Leu Leu Pro Leu Cys Cys Leu Ala Leu Leu
150 1 5 10 15
152 gca cta tct gcc cag agc tgc ggg ccg ggc cga gga ccg gtt ggc cgg 96
153 Ala Leu Ser Ala Gln Ser Cys Gly Pro Gly Arg Gly Pro Val Gly Arg
154 20 25 30
156 cgg cgt tat gtg cgc aag caa ctt gtg cct ctg cta tac aag cag ttt 144
157 Arg Arg Tyr Val Arg Lys Gln Leu Val Pro Leu Leu Tyr Lys Gln Phe
158 35 40 45
160 gtg ccc agt atg ccc gag cgg acc ctg ggc gcg agt ggg cca gcg gag 192
161 Val Pro Ser Met Pro Glu Arg Thr Leu Gly Ala Ser Gly Pro Ala Glu
162 50 55 60
164 ggg agg gta aca agg ggg tcg gag cgc ttc cgg gac ctc gta ccc aac 240
165 Gly Arg Val Thr Arg Gly Ser Glu Arg Phe Arg Asp Leu Val Pro Asn
166 65 70 75 80
168 tac aac ccc gac ata atc ttc aag gat gag gag aac agc ggc gca gac 288
169 Tyr Asn Pro Asp Ile Ile Phe Lys Asp Glu Glu Asn Ser Gly Ala Asp
170 85 90 95
172 cgc ctg atg aca gag cgt tgc aaa gag cgg gtg aac gct cta gcc atc 336
173 Arg Leu Met Thr Glu Arg Cys Lys Glu Arg Val Asn Ala Leu Ala Ile
174 100 105 110
176 gcg gtg atg aac atg tgg ccc gga gta cgc cta cgt gtg act gaa ggc 384
177 Ala Val Met Asn Met Trp Pro Gly Val Arg Leu Arg Val Thr Glu Gly
178 115 120 125
180 tgg gac gag gac ggc cac cac gca cag gat tca ctc cac tac gaa ggc 432
181 Trp Asp Glu Asp Gly His His Ala Gln Asp Ser Leu His Tyr Glu Gly
182 130 135 140
184 cgt gcc ttg gac atc acc acg tct gac cgt gac cgt aat aag tat ggt 480
185 Arg Ala Leu Asp Ile Thr Ser Asp Arg Asp Arg Asn Lys Tyr Gly
186 145 150 155 160
188 ttg ttg gcg cgc cta gct gtg gaa gcc gga ttc gac tgg gtc tac tac 528
189 Leu Leu Ala Arg Leu Ala Val Glu Ala Gly Phe Asp Trp Val Tyr Tyr
190 165 170 175
192 gag tcc cgc aac cac atc cac gta tcg gtc aaa gct gat aac tca ctg 576
193 Glu Ser Arg Asn His Ile His Val Ser Val Lys Ala Asp Asn Ser Leu
194 180 185 190
196 gcg gtc cga gcc gga ggc tgc ttt ccg gga aat gcc acg gtg cgc ttg 624
197 Ala Val Arg Ala Gly Gly Cys Phe Pro Gly Asn Ala Thr Val Arg Leu

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198          195          200          205
200 cgg agc ggc gaa cgg aag ggg ctg agg gaa cta cat cgt ggt gac tgg 672
201 Arg Ser Gly Glu Arg Lys Gly Leu Arg Glu Leu His Arg Gly Asp Trp
202          210          215          220
204 gta ctg gcc gct gat gca gcg ggc cga gtg gta ccc acg cca gtg ctg 720
205 Val Leu Ala Ala Asp Ala Ala Gly Arg Val Val Pro Thr Pro Val Leu
206 225          230          235          240
208 ctc ttc ctg gac cgg gat ctg cag cgc cgc gcc tcg ttc gtg gct gtg 768
209 Leu Phe Leu Asp Arg Asp Leu Gln Arg Arg Ala Ser Phe Val Ala Val
210          245          250          255
212 gag acc gag cgg cct ccg cgc aaa ctg ttg ctc aca ccc tgg cat ctg 816
213 Glu Thr Glu Arg Pro Pro Arg Lys Leu Leu Leu Thr Pro Trp His Leu
214          260          265          270
216 gtg ttc gct gct cgc ggg cca gcg cct gct cca ggt gac ttt gca ccg 864
217 Val Phe Ala Ala Arg Gly Pro Ala Pro Ala Pro Gly Asp Phe Ala Pro
218          275          280          285
220 gtg ttc gcg cgc cgc tta cgt gct ggc gac tcg gtg ctg gct ccc ggc 912
221 Val Phe Ala Arg Arg Leu Arg Ala Gly Asp Ser Val Leu Ala Pro Gly
222          290          295          300
224 ggg gac gcg ctc cag ccg gcg cgc gta gcc cgc gtg gcg cgc gag gaa 960
225 Gly Asp Ala Leu Gln Pro Ala Arg Val Ala Arg Val Ala Arg Glu Glu
226 305          310          315          320
228 gcc gtg ggc gtg ttc gca ccg ctc act gcg cac ggg acg ctg ctg gtc 1008
229 Ala Val Gly Val Phe Ala Pro Leu Thr Ala His Gly Thr Leu Leu Val
230          325          330          335
232 aac gac gtc ctc gcc tcc tgc tac gcg gtt cta gag agt cac cag tgg 1056
233 Asn Asp Val Leu Ala Ser Cys Tyr Ala Val Leu Glu Ser His Gln Trp
234          340          345          350
236 gcc cac cgc gcc ttc gcc cct ttg cgg ctg ctg cac gcg ctc ggg gct 1104
237 Ala His Arg Ala Phe Ala Pro Leu Arg Leu Leu His Ala Leu Gly Ala
238          355          360          365
240 ctg ctc cct ggg ggt gca gtc cag ccg act ggc atg cat tgg tac tct 1152
241 Leu Leu Pro Gly Gly Ala Val Gln Pro Thr Gly Met His Trp Tyr Ser
242          370          375          380
244 cgc ctc ctt tac cgc ttg gcc gag gag tta atg ggc tg 1190
245 Arg Leu Leu Tyr Arg Leu Ala Glu Glu Leu Met Gly
246 385          390          395
248 <210> SEQ ID NO: 3
249 <211> LENGTH: 1281
250 <212> TYPE: DNA
251 <213> ORGANISM: murine Ihh
253 <220> FEATURE:
254 <221> NAME/KEY: CDS
255 <222> LOCATION: (1)..(1233)
257 <400> SEQUENCE: 3
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260 1          5          10          15
262 ctg ctg ctg ctt ctg gtg ccg gcg gcg cgg ggc tgc ggg ccg ggc cgg 96

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263	Leu	Leu	Leu	Leu	Leu	Val	Pro	Ala	Ala	Arg	Gly	Cys	Gly	Pro	Gly	Arg	
264				20					25					30			
266	gtg	gtg	ggc	agc	cgc	cgg	agg	ccg	cct	cgc	aag	ctc	gtg	cct	ctt	gcc	144
267	Val	Val	Gly	Ser	Arg	Arg	Arg	Pro	Pro	Arg	Lys	Leu	Val	Pro	Leu	Ala	
268			35					40					45				
270	tac	aag	cag	ttc	agc	ccc	aac	gtg	ccg	gag	aag	acc	ctg	ggc	gcc	agc	192
271	Tyr	Lys	Gln	Phe	Ser	Pro	Asn	Val	Pro	Glu	Lys	Thr	Leu	Gly	Ala	Ser	
272		50					55					60					
274	ggg	cgc	tac	gaa	ggc	aag	atc	gcg	cgc	agc	tct	gag	cgc	ttc	aaa	gag	240
275	Gly	Arg	Tyr	Glu	Gly	Lys	Ile	Ala	Arg	Ser	Ser	Glu	Arg	Phe	Lys	Glu	
276	65					70					75					80	
278	ctc	acc	ccc	aac	tac	aat	ccc	gac	atc	atc	ttc	aag	gac	gag	gag	aac	288
279	Leu	Thr	Pro	Asn	Tyr	Asn	Pro	Asp	Ile	Ile	Phe	Lys	Asp	Glu	Glu	Asn	
280					85					90					95		
282	acg	ggt	gcc	gac	cgc	ctc	atg	acc	cag	cgc	tgc	aag	gac	cgt	ctg	aac	336
283	Thr	Gly	Ala	Asp	Arg	Leu	Met	Thr	Gln	Arg	Cys	Lys	Asp	Arg	Leu	Asn	
284				100					105					110			
286	tca	ctg	gcc	atc	tct	gtc	atg	aac	cag	tgg	cct	ggt	gtg	aaa	ctg	cgg	384
287	Ser	Leu	Ala	Ile	Ser	Val	Met	Asn	Gln	Trp	Pro	Gly	Val	Lys	Leu	Arg	
288			115					120					125				
290	gtg	acc	gaa	ggc	cgc	gat	gaa	gat	ggc	cat	cac	tca	gag	gag	tct	tta	432
291	Val	Thr	Glu	Gly	Arg	Asp	Glu	Asp	Gly	His	His	Ser	Glu	Glu	Ser	Leu	
292			130					135					140				
294	cac	tat	gag	ggc	cgc	gcg	gtg	gat	atc	acc	acc	tca	gac	cgt	gac	cga	480
295	His	Tyr	Glu	Gly	Arg	Ala	Val	Asp	Ile	Thr	Thr	Ser	Asp	Arg	Asp	Arg	
296	145					150					155					160	
298	aat	aag	tat	gga	ctg	ctg	gcg	cgc	tta	gca	gtg	gag	gcc	ggc	ttc	gac	528
299	Asn	Lys	Tyr	Gly	Leu	Leu	Ala	Arg	Leu	Ala	Val	Glu	Ala	Gly	Phe	Asp	
300				165					170						175		
302	tgg	gtg	tat	tac	gag	tcc	aag	gcc	cac	gtg	cat	tgc	tct	gtc	aag	tct	576
303	Trp	Val	Tyr	Tyr	Glu	Ser	Lys	Ala	His	Val	His	Cys	Ser	Val	Lys	Ser	
304				180					185						190		
306	gag	cat	tcg	gcc	gct	gcc	aag	aca	ggt	ggc	tgc	ttt	cct	gcc	gga	gcc	624
307	Glu	His	Ser	Ala	Ala	Ala	Lys	Thr	Gly	Gly	Cys	Phe	Pro	Ala	Gly	Ala	
308			195					200					205				
310	cag	gtg	cgc	cta	gag	aac	ggg	gag	cgt	gtg	gcc	ctg	tca	gct	gta	aag	672
311	Gln	Val	Arg	Leu	Glu	Asn	Gly	Glu	Arg	Val	Ala	Leu	Ser	Ala	Val	Lys	
312		210					215					220					
314	cca	gga	gac	cgg	gtg	ctg	gcc	atg	ggg	gag	gat	ggg	acc	ccc	acc	ttc	720
315	Pro	Gly	Asp	Arg	Val	Leu	Ala	Met	Gly	Glu	Asp	Gly	Thr	Pro	Thr	Phe	
316	225					230					235					240	
318	agt	gat	gtg	ctt	att	ttc	ctg	gac	cgc	gag	cca	aac	cgg	ctg	aga	gct	768
319	Ser	Asp	Val	Leu	Ile	Phe	Leu	Asp	Arg	Glu	Pro	Asn	Arg	Leu	Arg	Ala	
320				245						250					255		
322	ttc	cag	gtc	atc	gag	act	cag	gat	cct	cgc	cgt	cgc	ctg	gcg	ctc	acg	816
323	Phe	Gln	Val	Ile	Glu	Thr	Gln	Asp	Pro	Pro	Arg	Arg	Leu	Ala	Leu	Thr	
324				260					265					270			
326	cct	gcc	cac	ctg	ctc	ttc	att	gcg	gac	aat	cat	aca	gaa	cca	gca	gcc	864
327	Pro	Ala	His	Leu	Leu	Phe	Ile	Ala	Asp	Asn	His	Thr	Glu	Pro	Ala	Ala	

→ Use of n and/or Xaa has been detected in the Sequence Listing.
Review the Sequence Listing to insure a corresponding explanation is presented in the <220> to <223> fields of each sequence using n or Xaa.

VERIFICATION SUMMARY

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L:10 M:270 C: Current Application Number differs, Replaced Current Application Number
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:730 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:731 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:1615 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:15
L:1615 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:15
L:1615 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:2216 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:21
L:2216 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:2222 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:21
L:2222 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:2231 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:21
L:2231 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:2234 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:21
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L:2240 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:21
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L:2249 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:21
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L:2252 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:21
L:2252 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:2255 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:21
L:2255 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:2449 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:22
L:2449 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:2452 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:22
L:2452 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:2455 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:22
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L:2458 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:22
L:2458 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:2461 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:22
L:2461 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:2464 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:22
L:2464 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:2467 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:22
L:2467 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:2470 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:22
L:2470 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:2473 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:22
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L:2476 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:22
L:2476 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:2479 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:22
L:2479 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22